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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,281	03/25/2005	Seishi Miura	03500.017618	2011
5514 7590 02/02/2007 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EXAMINER MACCHIAROLO, PETER J	
			ART UNIT	PAPER NUMBER
			2879	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/02/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/529,281

Applicant(s)

MIURA ET AL.

Examiner

Peter J. Macchiarolo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/02/2005; 03/25/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The preliminary amendment filed 03/25/2005, which consists of changes to the claims has been entered.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12/02/2005 and 03/25/2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

At least figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a light-emitting region of at least one organic electroluminescence device which emits light of a color having a long wavelength being located at a position farther from the first electrode than a position of a light-emitting region of at

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least another organic electroluminescence device which emits light of a color having a short wavelength (see at least claim 1) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because it does not have the proper language. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

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- The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.
- The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. For example, it appears that at least the term "take-out efficiency," appears to describe incident efficiency, and the term "one organic electroluminescence device" appears to describe a subpixel. Appropriate correction is required.

Claim Objections

Claims 19, and 23-25 are objected to because of the following informalities:

Claim 19 recites "the light emitting layer," however there is no antecedent basis for this limitation. For the purpose of examination, the Examiner reads, "a light emitting layer."

Claim 23 recites “the another organic electroluminescence device,” however there is no antecedent basis for this limitation. For the purpose of examination, the Examiner reads, “one organic electroluminescence device.”

Claim 24 recites an equation but does not define the variable, “db3.” The Examiner has turned to figure 6b to define the variable, but requires Applicant to add the “db3” definition into the claim.

Claims 24 and 25 recites “the one organic electroluminescence device,” however there is no antecedent basis for this limitation. For the purpose of examination, the Examiner reads, “one organic electroluminescence device.”

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 20, the word “preferentially” renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Furthermore, the claim recites the light emitting layer of the one organic

electroluminescence device has a property of...transporting holes, the light emitting layer of the another organic electroluminescence device has a property of ...transporting electrons. There is not antecedent basis for “the one organic electroluminescence device,” or for “the another organic electroluminescence device.” Are these two different subpixels? Or the same subpixel which has a light emitting layer that transports electrons on one side, while the other side of the light emitting layer transports holes? For the purpose of examination, the Examiner interprets that there is only one subpixel being discussed, which has a light emitting layer that transports on one side electrons, while the other side of the light emitting layer transports holes.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukuda (USPN 6541130; “Fukuda”).

Regarding claim 18, Fukuda discloses in at least figures 1, 5 and 14, a multicolor light-emitting device comprising a plurality (see at least fig. 5) of organic electroluminescence devices (fig. 1; 1), the plurality of organic electroluminescence devices (1) emitting lights of different colors (see at least ABSTRACT), and each of the organic electroluminescence devices (1) having at least: a first electrode (5) which is a reflecting electrode (see at least col. 9, ll. 53-55)

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arranged on a side close to a substrate (2), a second electrode (3) which is a transparent electrode (ITO), arranged opposite to the first electrode (5); and an organic compound layer (4) arranged between the first electrode (5) and the second electrode (3), wherein among the organic electroluminescence devices (1) a light-emitting region (fig. 14; 10) of at least one organic electroluminescence device (1) which emits light of a color having a long wavelength is located at a position (D) farther from the first electrode (5) than a position (D) of a light-emitting region of at least another organic electroluminescence device which emits light of a color having a short wavelength (see at least col. 11, ll. 22-59 wherein Fukuda teaches the thickness D, shown in figure 14 as the distance between the light emitting region 10 and the first electrode 5, is proportional to the wavelength of emitted light, i.e. the longer wavelength red light will have a light emitting region 10 further from the first electrode 5 than the shorter wavelength blue see also col. 13 ll. 42-50).

Regarding claim 19, Fukuda discloses in at least figures 1 and 5 the organic compound layer (fig. 1; 4) has at least a stacked structure in which a light-emitting layer (fig. 5; 43r) is sandwiched between a first charge-transporting layer (42a) and a second charge-transporting layer (44r), and the first charge-transporting layer (42a) is located on a side closer to the substrate (2) than the second charge-transporting layer (44r).

Regarding claim 20, Fukuda discloses in at least figures 1 and 5 a light emitting layer (43r) that transports electrons on one side (top) of the light emitting region (10), while the other side (bottom) of the light emitting layer (43r) transports holes, the first charge-transporting layer

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(42a) is a hole transporting layer, and the second charge transporting layer (44r) is an electron transporting layer.

Regarding claim 21, Fukuda discloses in at least table 1 the thickness of the light-emitting layer (PC-7) is in a range of 10 to 35 nm.

Regarding claim 22, Fukuda discloses in at least figures 5 and 14 a material and a thickness of the first charge-transporting layer (44a) are the same as those for all of the organic electroluminescence devices (see at least col. 6, ll. 34-45).

Regarding claim 23, Fukuda discloses in at least figures 5, 14-16, and col. 11 line 21 to col. 12 line 17 a distance d_{a1} (D) from the first electrode (5) to the light-emitting region (10) of one organic electroluminescence device (1) is a distance obtained by the following equation:

$$n_1 d_{a1} = \frac{\lambda_a}{4} (1 + 2i); \quad i = 0, 1, 2, \dots$$

wherein n_1 denotes a refractive index of the first charge-transporting layer, and λ_a denotes a peak emission wavelength of the one organic electroluminescence device.

Regarding claim 24, Fukuda discloses in at least figures 5, 14-16, and col. 10 line 39 to col. 11 line 21 a distance $d_{b1} + d_{b3}$ ($d_{org} = D$) from the first electrode (5) to the light-emitting region (10) of one organic electroluminescence device (1) is a distance obtained by the following equation:

$$nb1(db1) + nb3(db3) = \frac{\lambda_b}{4} (1 + 2i); \quad i = 0, 1, 2, \dots$$

wherein nb1 denotes the n1, db1=da1, nb3 denotes a refractive index of the light-emitting layer of the one organic electroluminescence device, and λ_b denotes a peak emission wavelength of the one organic electroluminescence device.

Regarding claim 25, Fukuda discloses in at least figures 5 one organic electroluminescence device (3, 42a, 42r, 43r, 44r, and 5) is an organic electroluminescence device which emits light of red.

Regarding claim 26, Fukuda discloses in at least figure 5 the plurality of organic electroluminescence devices (1) are at least three organic electroluminescence devices (1) which emit lights of red (R), green (G) and blue (B), respectively.

Regarding claim 27, Fukuda discloses in at least figures 5 and col. 1, ll. 7-16, a display having the multicolor light-emitting device according to claim 18.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN's 5554911 published to Nakayama on September 10, 1996; and 6117529 published to Leising on September 12, 2000; and 7081871 published to Kanno et al on July 25, 2006 are all cited to show the state of the art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375.

The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

By 

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